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August 10, 2018

**Via Electronic Mail and Hand Delivery**

Luly E. Massaro, Commission Clerk  
Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

**RE: Docket 4755 – 2018 Energy Efficiency Program Plan  
Responses to Division Data Requests – Set 3**

Dear Ms. Massaro:

I have enclosed ten copies of National Grid's<sup>1</sup> responses to the third set of data requests issued by the Rhode Island Division of Public Utilities and Carriers (Division) in the above-referenced docket.

Thank you for your attention to this filing. If you have any questions concerning this matter, please contact me at 401-457-5164.

Very truly yours,

Adam M. Ramos  
Enclosures

cc: Docket 4755 Service List  
Jon Hagopian, Esq.

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid (National Grid or Company).

The Narragansett Electric Company  
d/b/a National Grid  
RIPUC Docket No. 4755  
In Re: 2018 Energy Efficiency Plan  
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000  
Responses to the Division's Third Set of Data Requests  
Issued on July 16, 2018

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Division 3-1

Request:

Referring to the Annual Energy Efficiency Plan for 2018, page 70 of 96, the section on "Incentive Levels" states in the first bullet:

"For cost effective CHP projects, the target energy efficiency installation incentive ("installation incentive") in 2018 is \$900 per net kW, where net is nameplate kW output minus CHP auxiliary kW. For CHP projects with efficiencies of 60% or greater, the target installation incentive for 2018 is \$1,000 per net kW. Wasted energy, back pressure turbines, and extraction turbines are eligible for incentives of \$900/kW."

- (a) It is the Division's understanding that the efficiency of the proposed CHP unit is below 60%. If that is accurate, please explain the rationale for offering \$1,000 per kW in light of the provision quoted above that appears to indicate that projects of 60% or greater should receive an incentive of \$1,000 per kW and projects below that level should be \$900 per kW.
- (b) If the Company has relied upon the provisions in the second bullet on page 70 relating to a customer commitment to implement energy efficiency measures that are "at least 5% of site energy use or the maximum load reduction identified by a TA Study," please provide information supporting reliance upon that provision.

Response:

The CHP incentives range is based on all of the criteria listed in the "Incentive Level" section on page 70, not just the first bullet stated above. The full section is below, and emphasis has been added to the criteria relevant to this project:

"Incentive Levels

If a project has been shown to be cost effective, it will be eligible for an incentive. Incentives will be determined following cost effectiveness screening in consultation with National Grid personnel. The following rules will apply to all CHP projects (regardless of size) in the determination of the incentive. However, the amount of incentive the Company is willing to offer and commit to the customer could depend upon the amount of funds that are budgeted or remaining in the budget of the energy efficiency program.

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- For cost effective CHP projects, the target energy efficiency installation incentive (“installation incentive”) in 2018 is \$900 per net kW, where net is nameplate kW output minus CHP auxiliary kW. For CHP projects with efficiencies of 60% or greater, the target installation incentive in 2018 is \$1,000 per net kW. Wasted energy, back pressure turbines, and extraction turbines are eligible for incentives of \$900/kW.
  - For cost effective CHP projects where the host customer also commits to implementing energy efficiency measures representing at least 5% of site energy use or the maximum load reduction identified by a TA Study, whichever is less. <sup>1</sup> The maximum installation incentive in 2018 is up to \$1,125 per net kW, and the CHP sizing must incorporate the load reduction. For CHP projects with efficiencies of 60% or greater and that have similar energy efficiency participation, the maximum installation incentive in 2018 is up to \$1,250 per net kW. A customer may be treated as having made this commitment to energy efficiency if they have made investments to achieve similar load reductions through energy efficiency within the previous five years.”
- (a) The customer qualifies for up to \$1,125/kW because they implemented energy efficiency measures representing at least 5% of site energy use within the previous five years. If the system had been above 60%, then the customer would have qualified for up to \$1,250/kW.
- (b) The site energy at the time of query for gas was approximately 1,708,026 therms/yr. 5% is 85,401 therms. The Navy saved 14% over the past five years. The following table lists the Navy's gas applications and savings over the past five years.

Application	Savings
App 4616979	8,496 therms
App 3766554	4,453 therms
App 2968995	7,316 therms
App 3594580	72,586 therms
App 7539108	96,000 therms
App 7539107	50,000 therms
Total	238,851 therms 14% reduction

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<sup>1</sup> If CHP facility sizing is determined by electric load (or not constrained by either electric or thermal load), the requirement will be 5% of electric usage; if the facility sizing is determined by thermal load, the requirement will be 5% of thermal energy usage. The energy efficiency measures will themselves be eligible for incentives, and are not part of the CHP incentive package cap described below.

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The site energy at the time of the query for electric was approximately 83,576,527 kWh/yr. 5% is 4,178,826 kWh. The Navy saved 5.4% over the past 5 years. The following table lists the Navy's applications and their associated savings over the past five years.

Application	Savings	
App 5962764	21,407 kwh	
App 4567109	74,340 kwh	
App 5768968	20,093 kwh	
App 4765203	125,339 kwh	
App 3953288	5,154 kwh	
App 2845919	110,692 kwh	
App 3829351	7,630 kwh	
App 4765280	8,864 kwh	
App 4765273	64,405 kwh	
App 4765272	17,713 kwh	
App 4765271	51,249 kwh	
App 4765202	1,430,004 kwh	
App 4765210	28,997 kwh	
App 4765801	29,966 kwh	
App 2841166	1,913,434 kwh	
App 2845920	115,986 kwh	
App 2845921	501,356 kwh	
Total	4,526,629 kwh	5.4% reduction

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Division 3-2

Request:

Refer to the response to Division 1-1, referencing page 12 of Attachment 4 of the 2018 Rhode Island Efficiency Program Plan, from which the \$16 million of economic benefits was apparently relied upon in the B/C ratio test. It appears that the \$16 million was calculated using the \$.80 multiplier of total project costs. Attachment 4 provides no detail about how the \$.80 multiplier in the 2018 Rhode Island Efficiency Program Plan was mathematically derived. Please provide an explanation and accompanying schedule that shows how the multiplier was mathematically derived from the "Macroeconomic Impacts of Rhode Island Energy Efficiency Investments: REMI Analysis of National Grid's Energy Efficiency Programs." Please show the component parts of the calculation, labeled by component.

Response:

The \$.80 multiplier is derived from a detailed Regional Economic Models, Inc. (REMI) Analysis and was presented at the PUC Technical Session on September 13, 2017, as described in the response to Data Request Division 2-1. The report, "Macroeconomic Impacts of Rhode Island Energy Efficiency Investments: REMI Analysis of National Grid's Energy Efficiency Programs" is included in Attachment DIV 2-1.

The REMI model is a well-known, reputable model that captures how cost changes to households and businesses affect economic growth and incorporates feedback from economic stakeholders (households and businesses) when an energy efficiency program takes effect. There is no mathematical information or schedule to share because the REMI economic model takes user inputs and runs internal algorithms to determine outputs like the \$.80 multiplier.

As detailed in the REMI Analysis beginning on page 10, representative CHP projects costs, savings, and rate impacts were fed into the REMI economic model, which projected the macroeconomic impacts of the CHP projects.

Table 6 from the REMI analysis summarizes the inputs and outputs associated with CHP projects.

CHP PROJECT ECONOMIC MULTIPLIERS							
CHP Project Data		Job Years/\$m	Job Years	GDP/\$	GDP	Income/\$	Income
Construction Spending	\$3,761,172	12.4	47	0.8	\$3,034,363	0.6	\$2,244,149
Total Savings	\$12,042,883	14.1	170	1.5	\$17,568,939	1.1	\$12,703,018
Total Cost	\$6,268,620	-6.6	-41	-0.5	-\$3,506,352	-0.3	-\$2,126,284
		Total	175	Total	\$17,096,950	Total	\$12,820,883
TOTAL SPENDING MULTIPLIERS							
		Jobs/\$m	Job Years	GDP/\$	GDP	Income/\$	Income
Total Spending	\$6,268,620	28.0	175	2.73	\$17,096,950	2.0	\$12,820,883

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Division 3-3

Request:

Referring to GCR Docket 4199 in 2010, data request Division 1-3 contained a subpart question and response as follows:

"c. Quantify the significance of the reduction in reliance on LNG at the Newport Navy Yard site under: i. Normal winter weather conditions ii. Design winter weather conditions iii. Design day peak conditions iv. Severe Cold Snap conditions."

The sub-part response stated:

"c. The Algonquin East to West project provides capacity to Aquidneck Island to economically meet future load growth in an area where pipeline capacity has consistently been constrained and very expensive to expand.

i Under normal weather conditions it would eliminate the use of LNG at Newport for the next several years.

ii Under design winter conditions it would eliminate the use of LNG at Newport for the next few years.

iii The current forecasted design peak day would require almost 3,100 DT more than existing pipeline capacity of 16,089 DT/day. A design peak day would also be expected to result in a peak hour of 984 DT/hour, 189 DT more than the 795 DT of contract capacity. Thus, current peak day and peak hour pipeline capacities can only be met for the current load by vaporizing 4 truckloads of LNG. With the new capacity in place, the full peak hourly load can be met with pipeline capacity, but only for a few years assuming typical peak hour growth. The Aquidneck Island area had the most rapid growth rate on the RI system during the last housing construction boom period.

iv The capacity would be available every day at 100% of the 6,000 DT/day of delivery capability to meet cold snap conditions on Aquidneck Island or on the system as a whole. It would eliminate all LNG at the Newport LNG facility."

(NOTE: underline added for emphasis)

Given this 2010 assessment that full peak hourly load could be met "only for a few years assuming typical peak hour growth," what capacity risk, if any, would be created from the addition of the proposed CHP unit operating during design peak days, given that such significant additional growth would not be considered "typical peak hour growth"?

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Response:

There is no pipeline capacity available for the addition of the proposed CHP unit during design peak days. However, the Company does not anticipate a capacity risk from the addition of the proposed CHP unit, so long as the Navy agreed to cease CHP equipment operation on days on which weather conditions are colder than 52 heating degree days (HDD) (an average of 3.4 days per year). Please refer to Attachment DIV 2-4 for a copy of this analysis. The Company currently is negotiating with the Navy and is optimistic that it will agree to this requirement. If the Navy and the Company are not able to reach agreement on this requirement, then the Navy and the Company will explore other options for the project, but in no event will the Company purchase additional interstate pipeline capacity for the project. As such, the Company does not estimate a capacity risk as a result of the project.